

ASSFALG

Qualitätshydraulik

Walvoil

2/2, 3/2, 6/2, 8/3 Wegeventile,
elektromagnetisch
Gruppe 452



... mehr als Qualität

with solenoid control

DFE



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DFE

with solenoid control

Working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46 mm²/s - 46 cSt viscosity at 40°C temperature.

		DFE052	DFE10	DFE20
N. of available ways		2-3-6-8	3-6	3-6
Nominal flow rating	<i>in steady conditions</i>	60 l/min	90 l/min	140 l/min
Operating pressure (maximum)*	<i>without drain</i>	200 bar 2900 psi	200 bar 2900 psi	200 bar 2900 psi
	<i>with drain</i>	315 bar 4600 psi	315 bar 4600 psi	315 bar 4600 psi
Available nominal voltage	<i>VDC</i>	12-24 48-110	12-24-48	12-24
	<i>VAC 50Hz (with C04 connector)</i>	24-110-220	110-220	24-110-220
Potenza nominale	<i>W</i>	38	60	60
Internal leakage A(B)→T	<i>Δp=100 bar 1450 psi with fluid and valve at 40°C</i>	7 cm ³ /min 0.43 in ³ /min	10 cm ³ /min 0.61 in ³ /min	15 cm ³ /min 0.92 in ³ /min
Fluid		Mineral base oil		
Fluid temperature	<i>with NBR seals</i>	da -20° a 80°C		
	<i>with FPM seals</i>	da -20° a 100°C		
Viscosity	<i>operating range</i>	da 15 a 75 mm ² /s - from 15 to 75 cSt		
	<i>minimum</i>	12 mm ² /s - 12 cSt		
	<i>maximum</i>	400 mm ² /s - 400 cSt		
Max. level of contamination		19/16 - ISO 4406		
Ambient temperature		da -40° a 60°C		

NOTE - For different working conditions please contact Sales Dept.

(*) - This value is reachable only in steady conditions; for dynamic working conditions see the pages from 49 to 52.

Standard threads

ALL PORTS	BSP (ISO 228/1)	UN-UNF (ISO 11926-1)
DFE052	G 3/8	3/4-16 (SAE 8)
DFE10	G 1/2	7/8-14 (SAE 10)
DFE20	G 3/4	1 1/16-12 (SAE 12)
DRAIN PORT		
L	G 1/4	9/16-18 (SAE 6) 7/16-20 (SAE4)*

(*) For DFE052/8, DFE20 valves

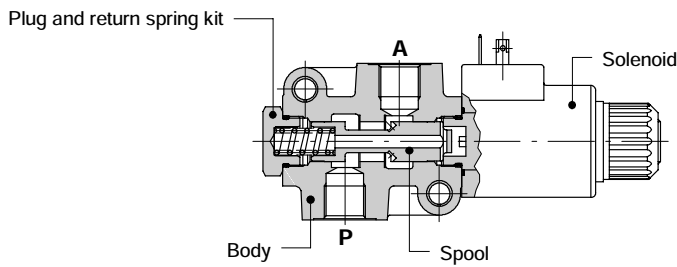
with solenoid control

DFE

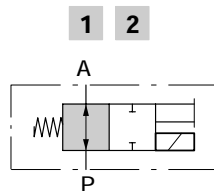
Hydraulic circuit

2-way

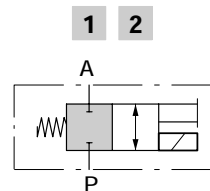
Available as body only in DFE052/2 execution; for other executions 3-way body is used.



Spool type A

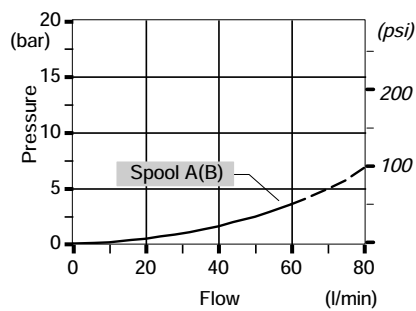


Spool type B

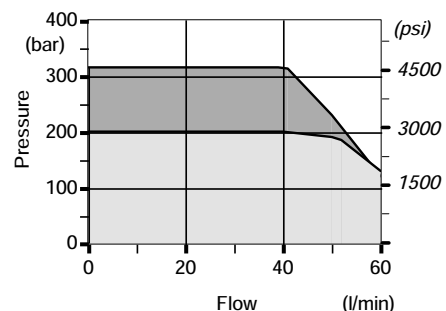


Performance data

Pressure drop versus flow
P→A



Minimum dynamic conditions
(supply = Vn-10%, coil at 70 °C)



Without drain
With drain

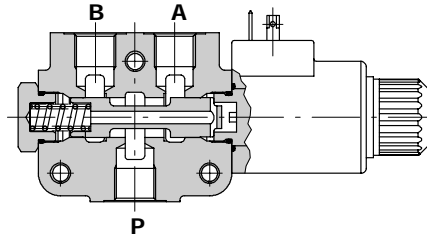
DFE

with solenoid control

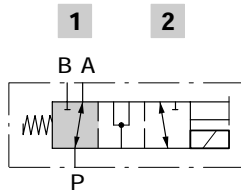
Hydraulic circuit

3-way

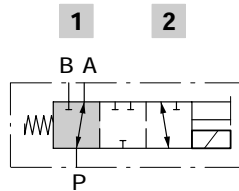
It's possible to obtain 2-way diverter valve plugging port A or B.



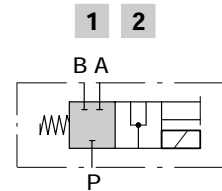
Spool type A



Spool type B



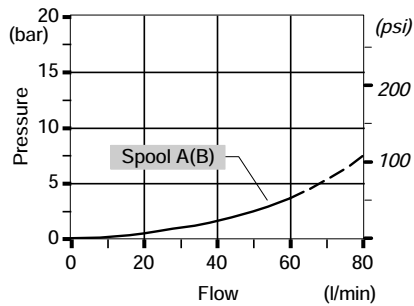
Spool type D



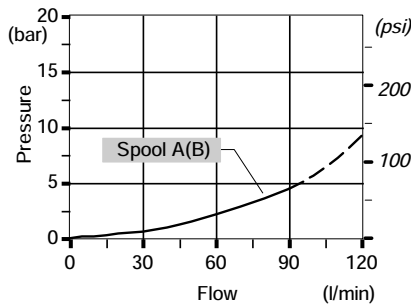
Performance data

Pressure drop versus flow: P→A(B)

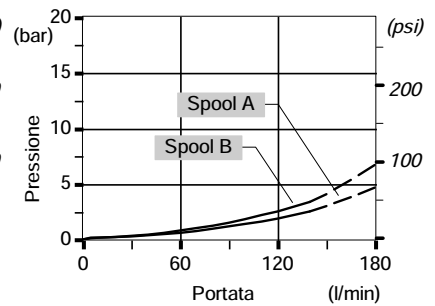
DFE052/3



DFE10/3

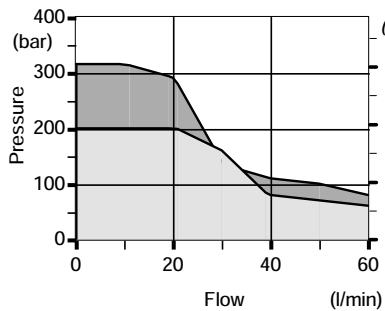


DFE20/3

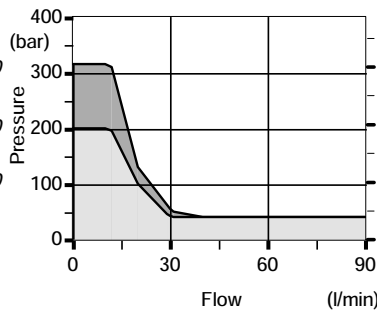


Minimum dynamic conditions: (supply = Vn-10%, coil at 70 °C)

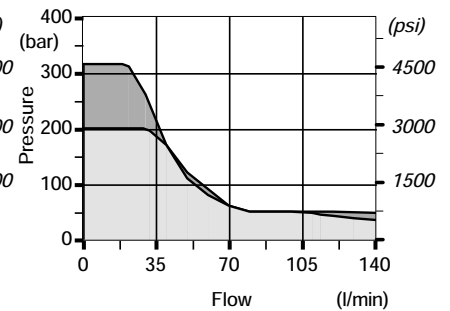
DFE052/3



DFE10/3



DFE20/3



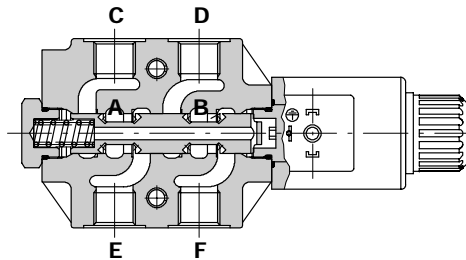
■ With drain □ Without drain

with solenoid control

DFE

Hydraulic circuit

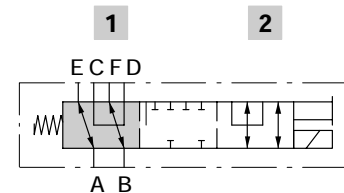
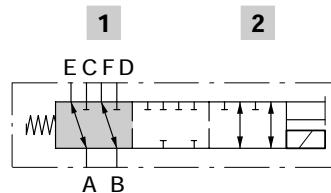
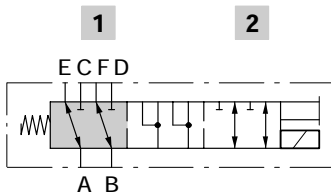
6-way



Spool type A

Spool type B

Spool type H



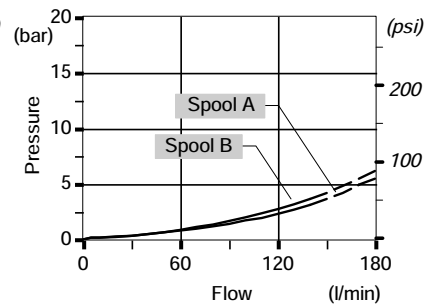
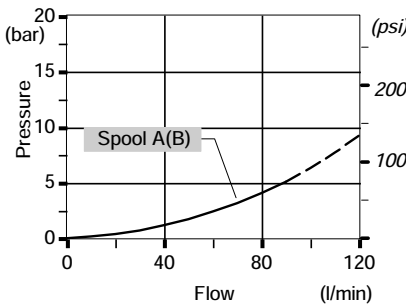
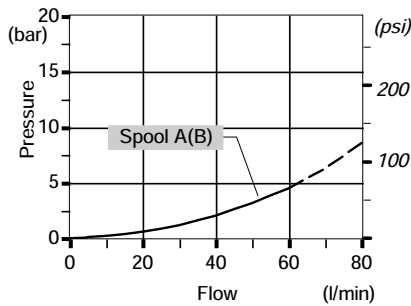
Performance data

Pressure drop versus flow: A→E(C).

DFE052/6

DFE10/6

DFE20/6

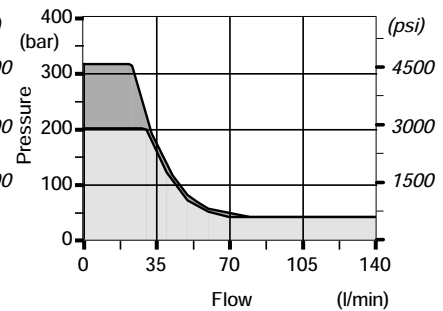
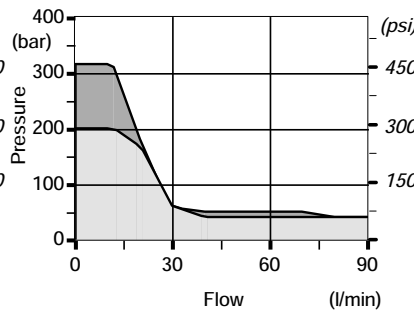
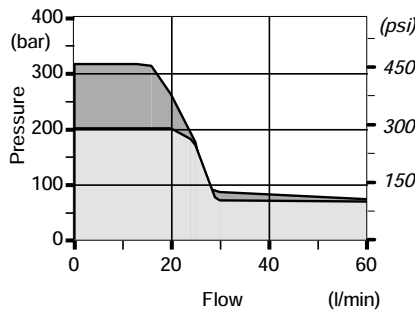


Minimum dynamic conditions: (supply = Vn-10%, coil at 70 °C)

DFE052/6

DFE10/6

DFE20/6



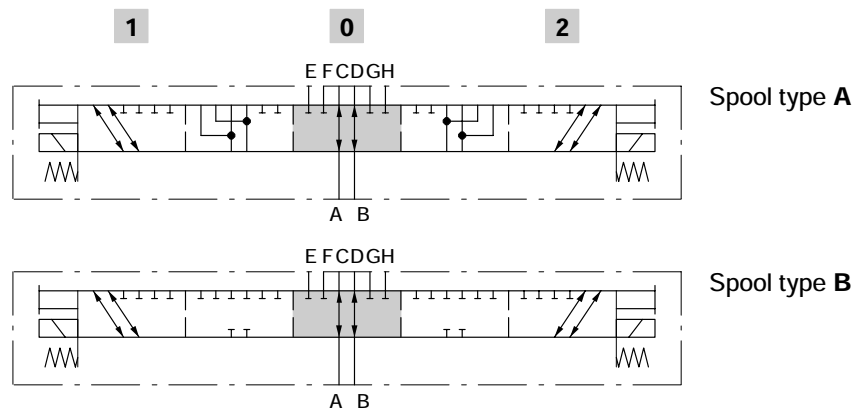
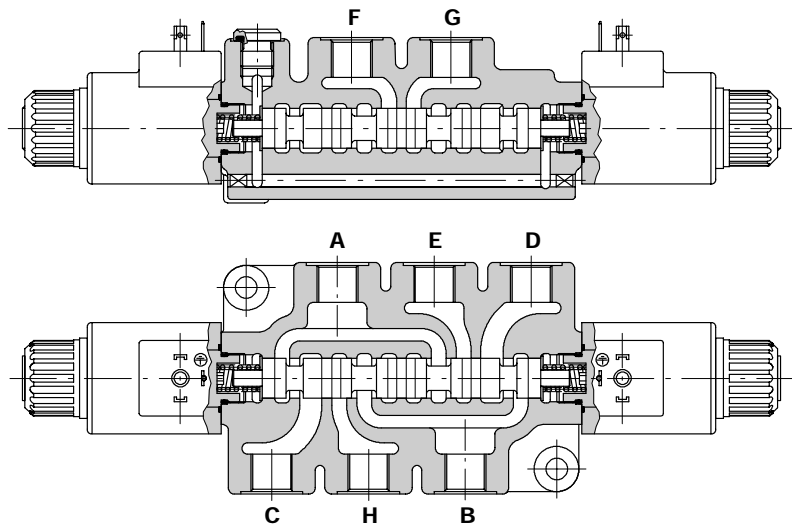
■ With drain □ Without drain

DFE

with solenoid control

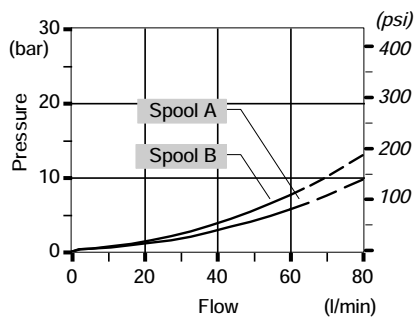
Hydraulic circuit

8-way

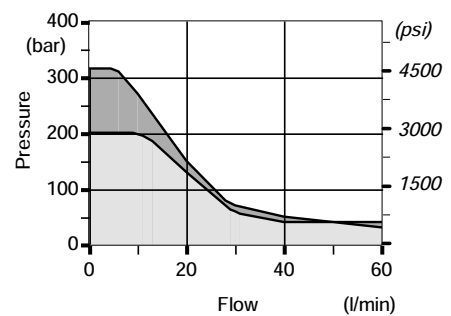


Performance data

**Pressure drop versus flow
A → C**



**Minimum dynamic conditions
(supply = Vn-10%, coil at 70 °C)**

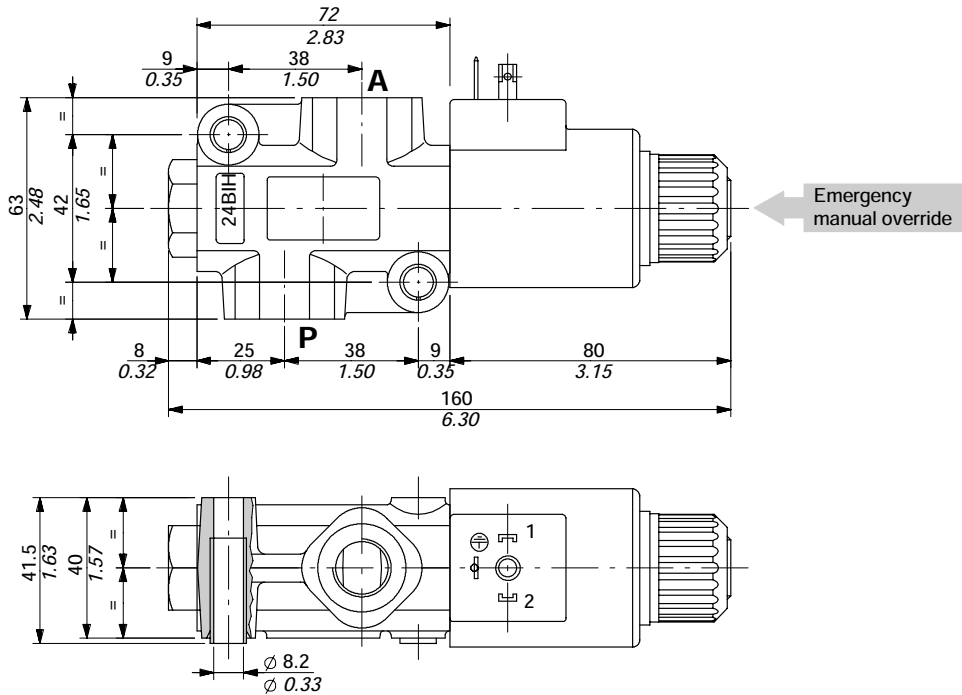


with solenoid control

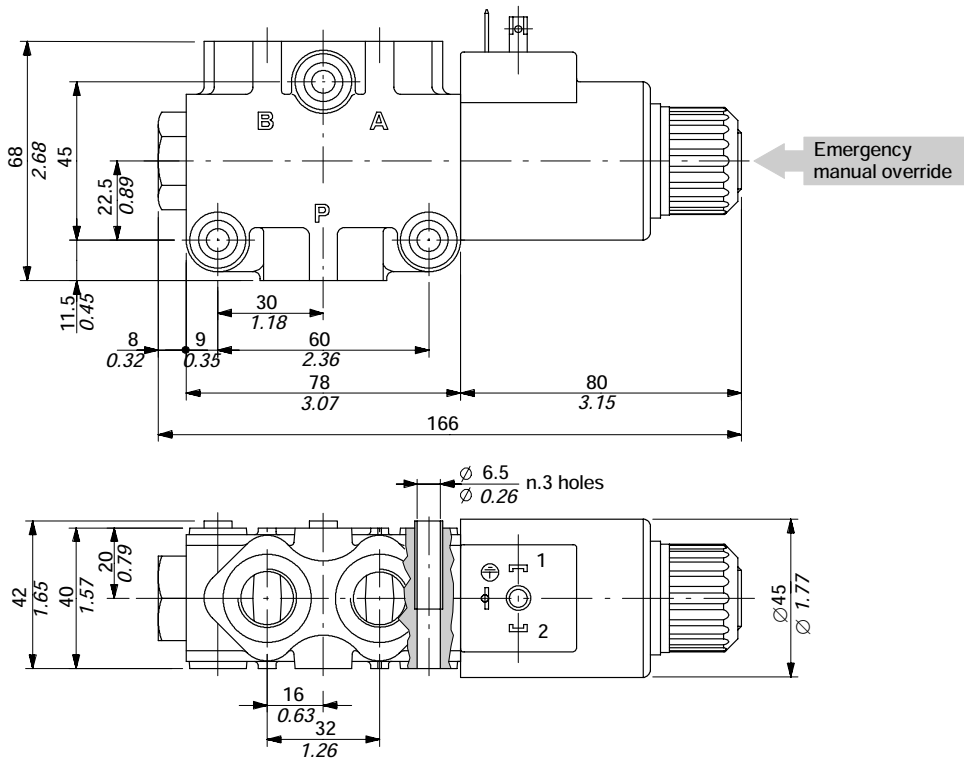
DFE052

Dimensional data

2-way DFE052/2 valve



3-way DFE052/3 valve

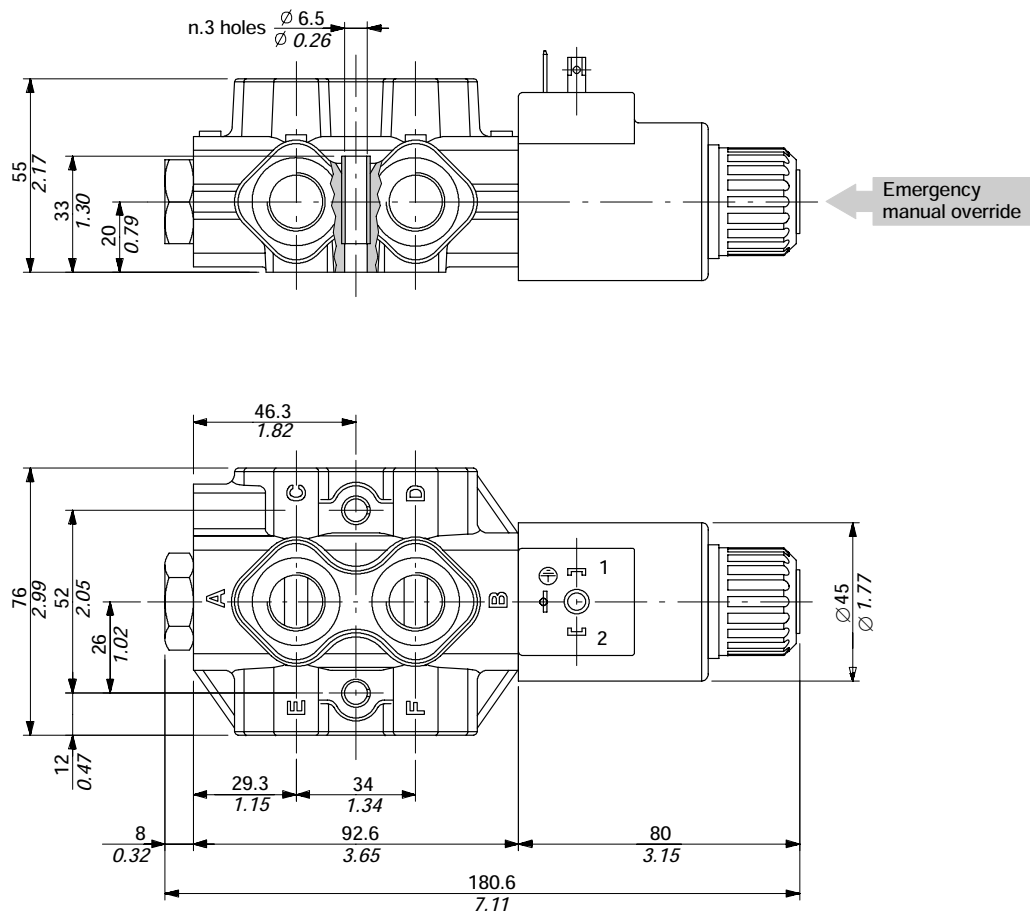


DFE052

with solenoid control

Dimensional data

6-way DFE052/6 valve

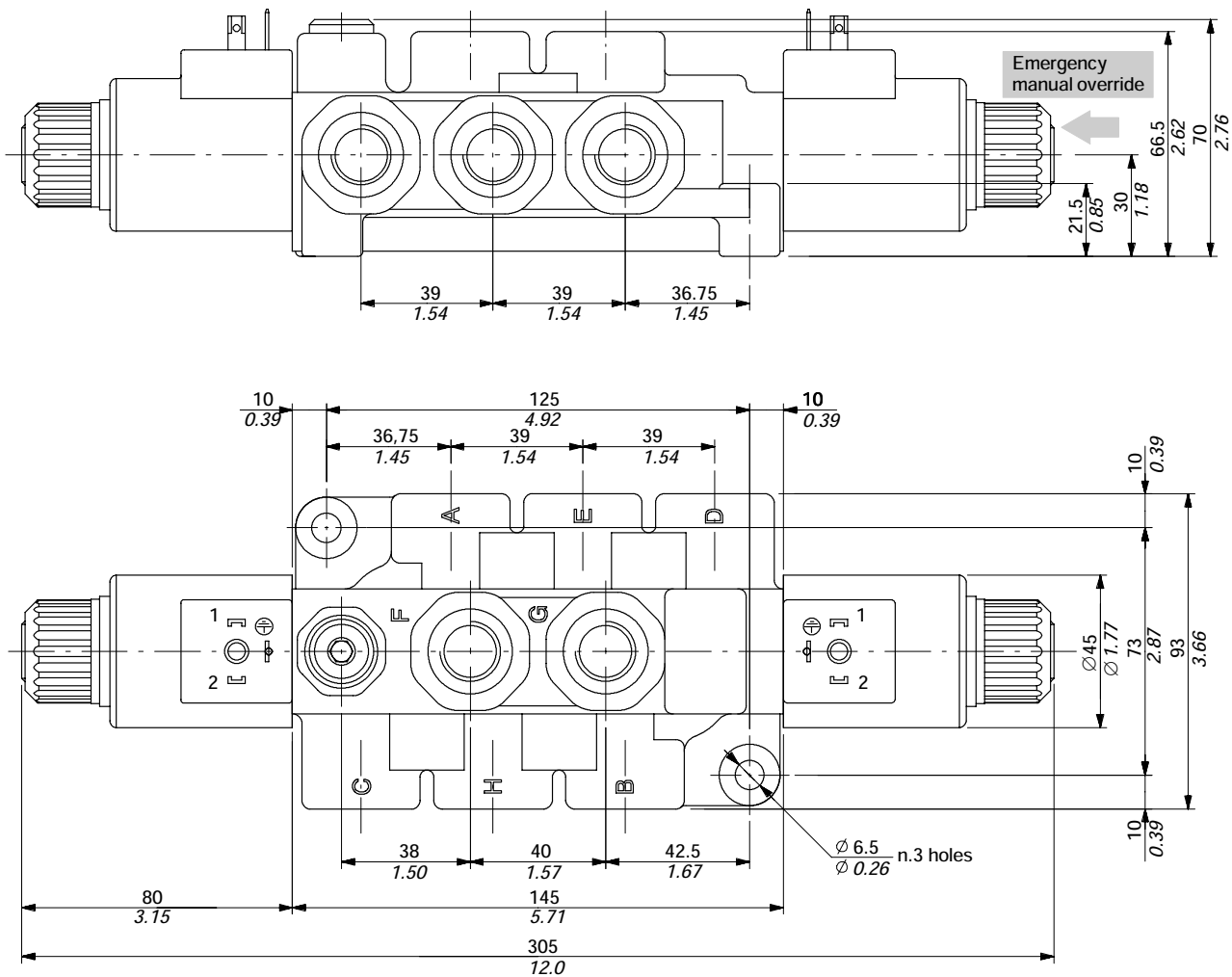


with solenoid control

DFE052

Dimensional data

8-way DFE52/8 valve



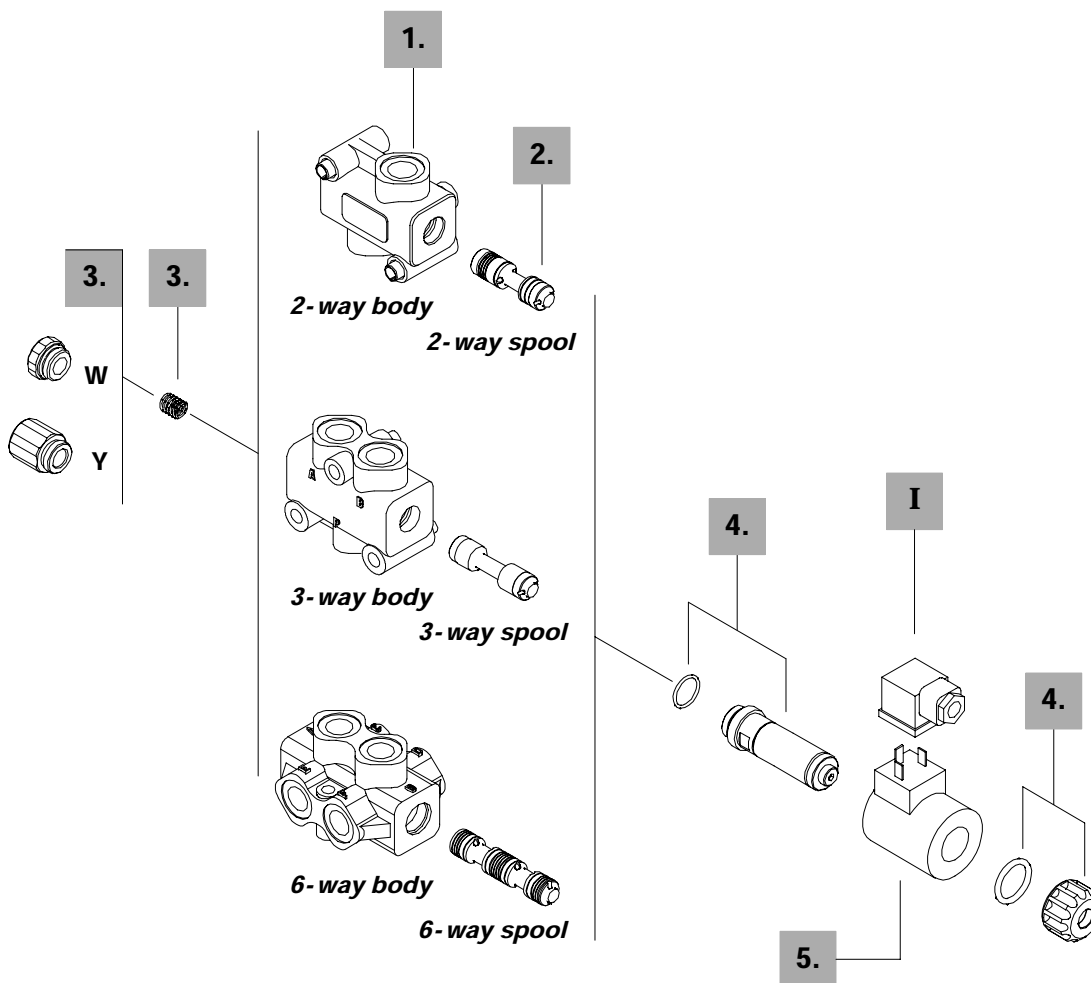
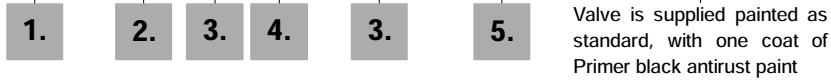
DFE052

with solenoid control

Ordering codes

Description example :

Diverter valve **DFE052/2** **A** **18** **ES** - **W** **201-12VDC** - **<CVN>**



with solenoid control

DFE052

Ordering codes

2-way

1. Body *

TYPE	CODE	DESCRIPTION
DFE052/2	3CO2220321	Standard body, BSP threaded

2. Spool options

TYPE	CODE	DESCRIPTION
A	3CAS105245	2 positions with open centre in neutral
B	3CAS105145	2 positions with closed centre in neutral

3-way

1. Body *

TYPE	CODE	DESCRIPTION
DFE052/3	3CO2221325	Standard body, BSP threaded

2. Spool options

TYPE	CODE	DESCRIPTION
A	3CAS105345	3-way, 2 positions with ports connected in transit position
B	3CAS105445	3-way, 2 positions with ports closed in transit position
D	3CAS105546	3-way, 2 positions, without transit position, with ports closed in rest position

6-way

1. Body *

TYPE	CODE	DESCRIPTION
DFE052/6	3CO2222326	Standard body, BSP threaded

2. Spool options

TYPE	CODE	DESCRIPTION
A	3CAS105645	6-way, 2 positions with ports connected in transit position
B	3CAS105746	6-way, 2 positions with ports closed in transit position
H	3CAS105845	6-way, 2 positions, D↔C in position 1, F↔E in position 2, ports closed in transit position

3. Positioner kits page 59

TYPE	CODE	DESCRIPTION
18...W	5TAP001	Spring return in position 1
18...Y	5GIU001 *	Spring return in position 1, with G1/4 drain port

4. Tube assembly page 60

TYPE	CODE	DESCRIPTION
ES	5SOL515000	Spring return in position 1 (without coil)

5. Coil options page 60

TYPE	CODE	DESCRIPTION
101	-	Without coil (only with tube kit)
201-12VDC	4SOL515012	Coil with 12VDC nominal voltage
201-24VDC	4SOL515024	Coil with 24VDC nominal voltage
231-12VDC	4SOL515011	Coil with 12VDC nominal voltage and "DEUTSCH DT06-2S" connection

I Optional connectors page 80

TYPE	CODE	DESCRIPTION
C02	2X1001010	According to ISO4400
C09	5CON130020	Type DEUTSCH "DT04-2P"

NOTE (*) - Codes are referred to **BSP** thread.

DFE052

with solenoid control

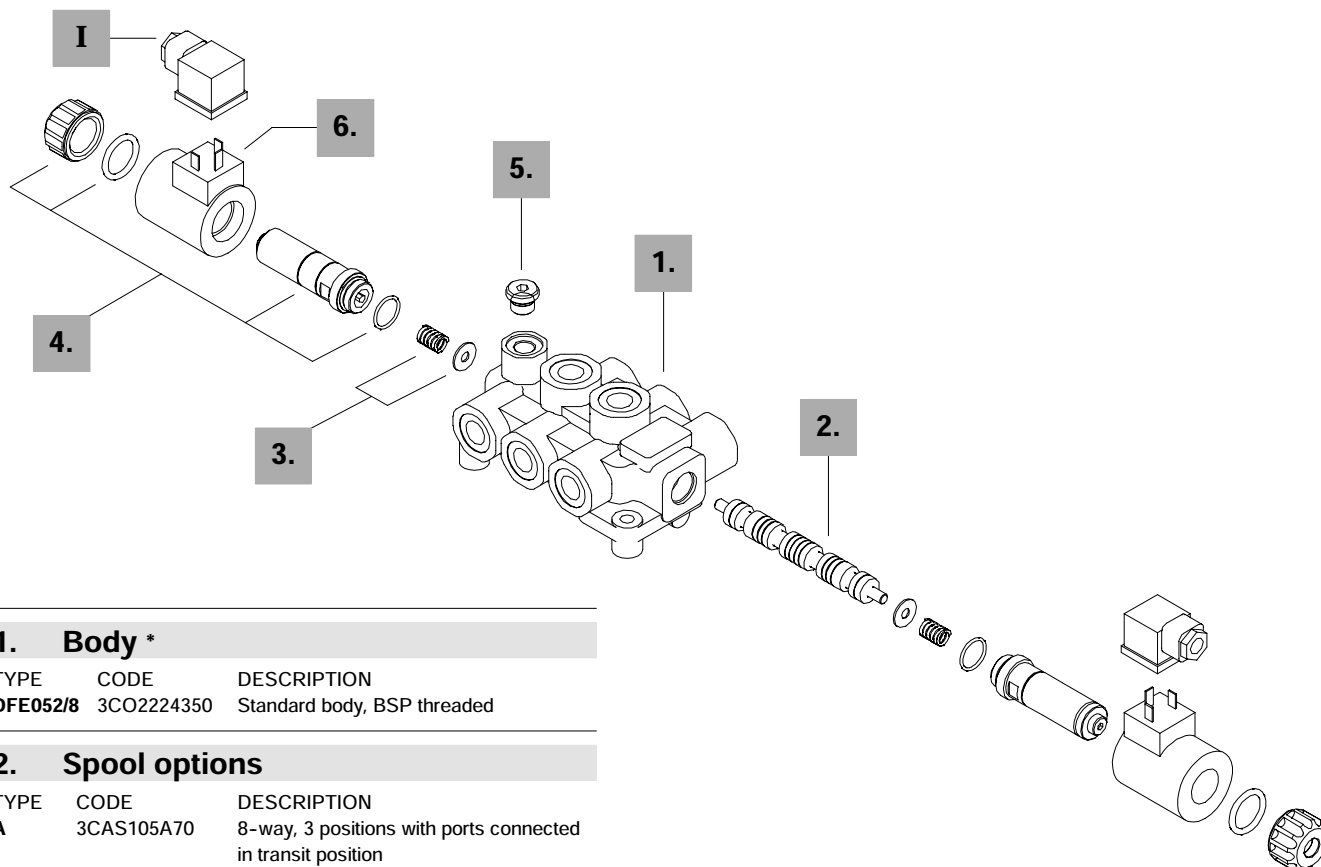
Ordering codes

Description example :

Diverter valve **DFE052/8 B 8 ES3 - W 201-12VDC - <CVN>**



Valve is supplied painted as standard, with one coat of Primer black antirust paint



1. Body *

TYPE	CODE	DESCRIPTION
DFE052/8	3CO2224350	Standard body, BSP threaded

2. Spool options

TYPE	CODE	DESCRIPTION
A	3CAS105A70	8-way, 3 positions with ports connected in transit position
B	3CAS105B70	8-way, 3 positions with ports closed in transit position

3. Positioner kit *page 59*

TYPE	CODE	DESCRIPTION
8	5V08001	Spring return in neutral position

4. Tube assembly *page 60*

TYPE	CODE	DESCRIPTION
ES3	5SOL515000	With spring return in neutral position (without coil)

5. Drain options * *page 59*

TYPE	CODE	DESCRIPTION
W	3XTAP719150	With drain plugged
Y	-	With G 1/4 drain port

6. Coil options *page 60*

TIPO	CODICE	DESCRIZIONE
101	-	Without coil (only with tube kit)
201-12VDC	4SOL515012	Without coil (only with tube kit)
201-24VDC	4SOL515024	Coil with 24VDC nominal voltage
231-12VDC	4SOL515011	Coil with 12VDC nominal voltage and "DEUTSCH DT06-2S" connection

I Optional connectors *page 80*

TYPE	CODE	DESCRIPTION
C02	2X1001010	According to ISO4400
C09	5CON130020	Type DEUTSCH "DT04-2P"

NOTE (*) - Code are referred to **BSP** thread.

with solenoid control

DFE052

Positioner kits

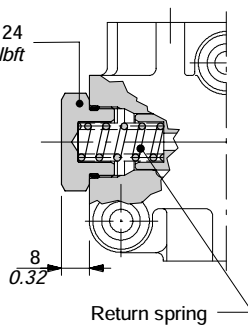
DFE052/2 - /3 - /6

18W kit

Spring return in position 1 with plug.



Plug - wrench 24
24 Nm / 17.7 lbf

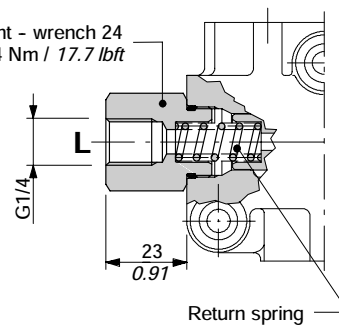


18Y kit

Spring return in position 1, with G1/4 joint for drain.



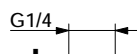
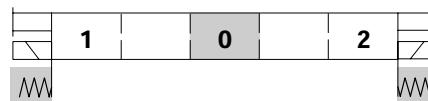
Joint - wrench 24
24 Nm / 17.7 lbf



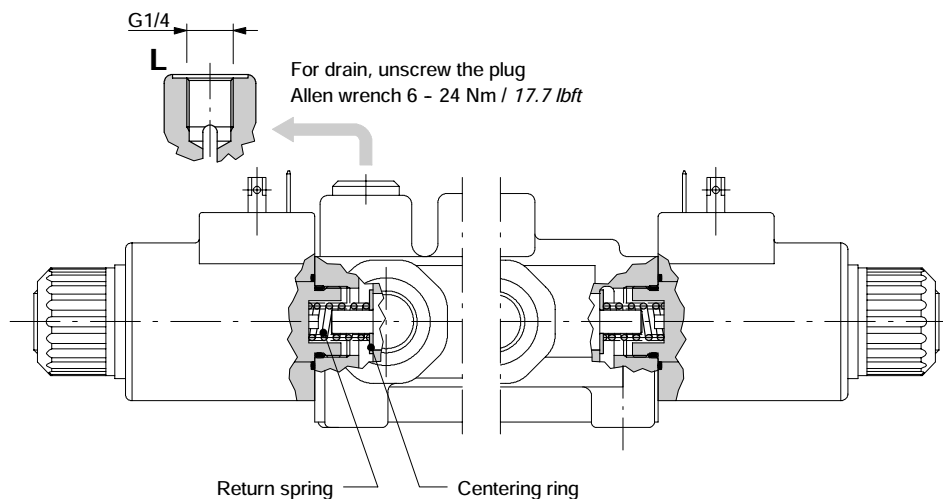
DFE052/8

8 kit

Spring return in position 0.



For drain, unscrew the plug
Allen wrench 6 - 24 Nm / 17.7 lbf

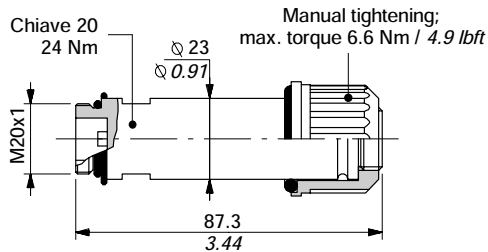


DFE052

with solenoid control

Solenoid parts

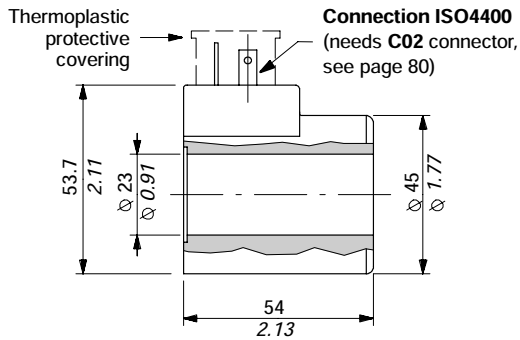
ES tube assembly



Operating features

Plunger stroke : 7.1 mm / 0.28 in

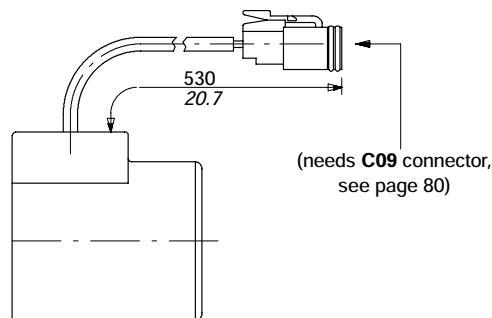
Coil options



Operating features

Nominal voltage : 12VDC / 24VDC
Nominal voltage tolerance . . . : ±10%
Power rating : 38 W
Duty cycle : 100%
Weather protection : IP66
Coil insulation : Class H

**Optional coil with connector type
DEUTSCH "DT06-2S"**

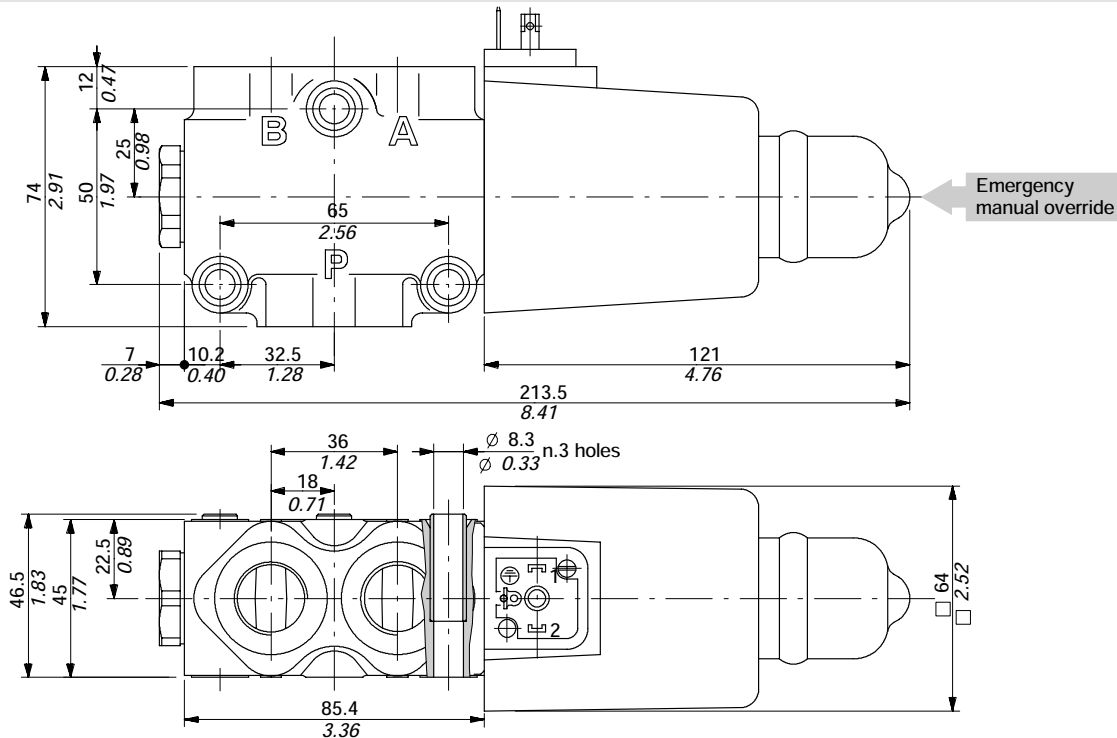


with solenoid control

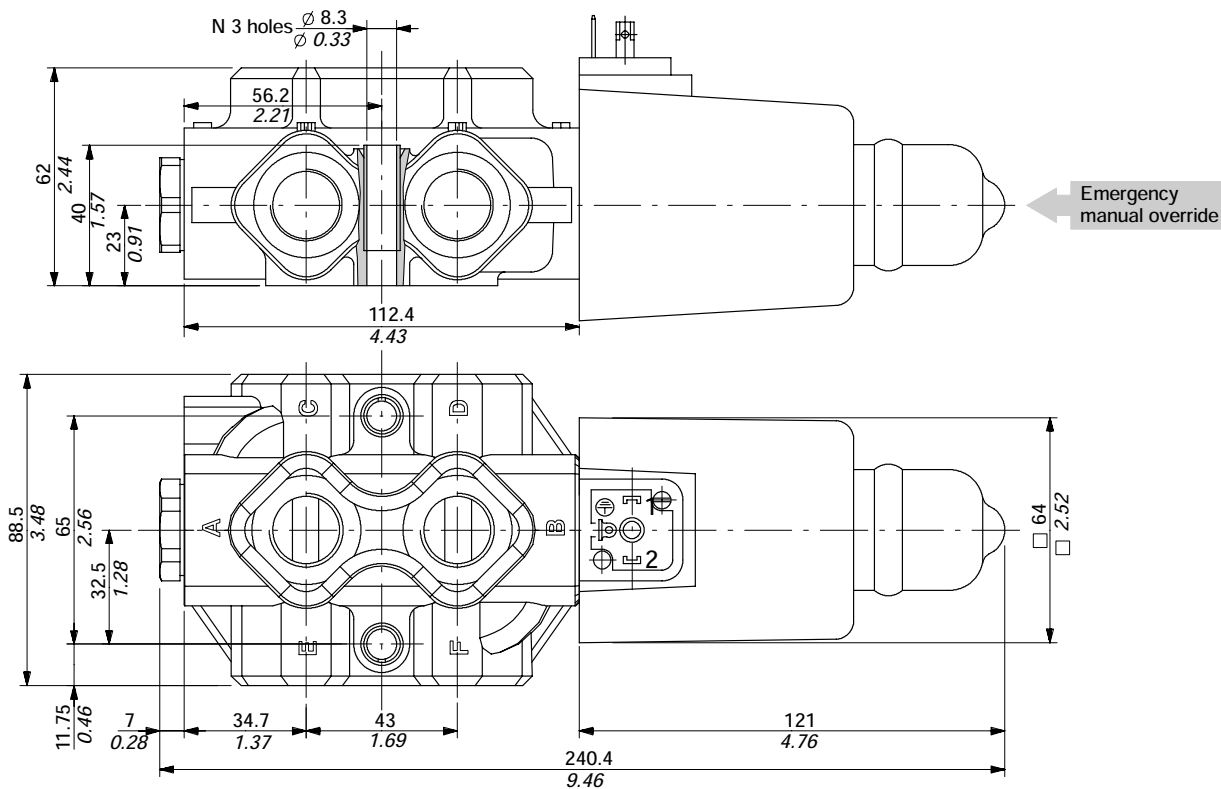
DFE10

Dimensional data

3-way DFE10/3 valve



6-way DFE10/6 valve



DFE10

with solenoid control

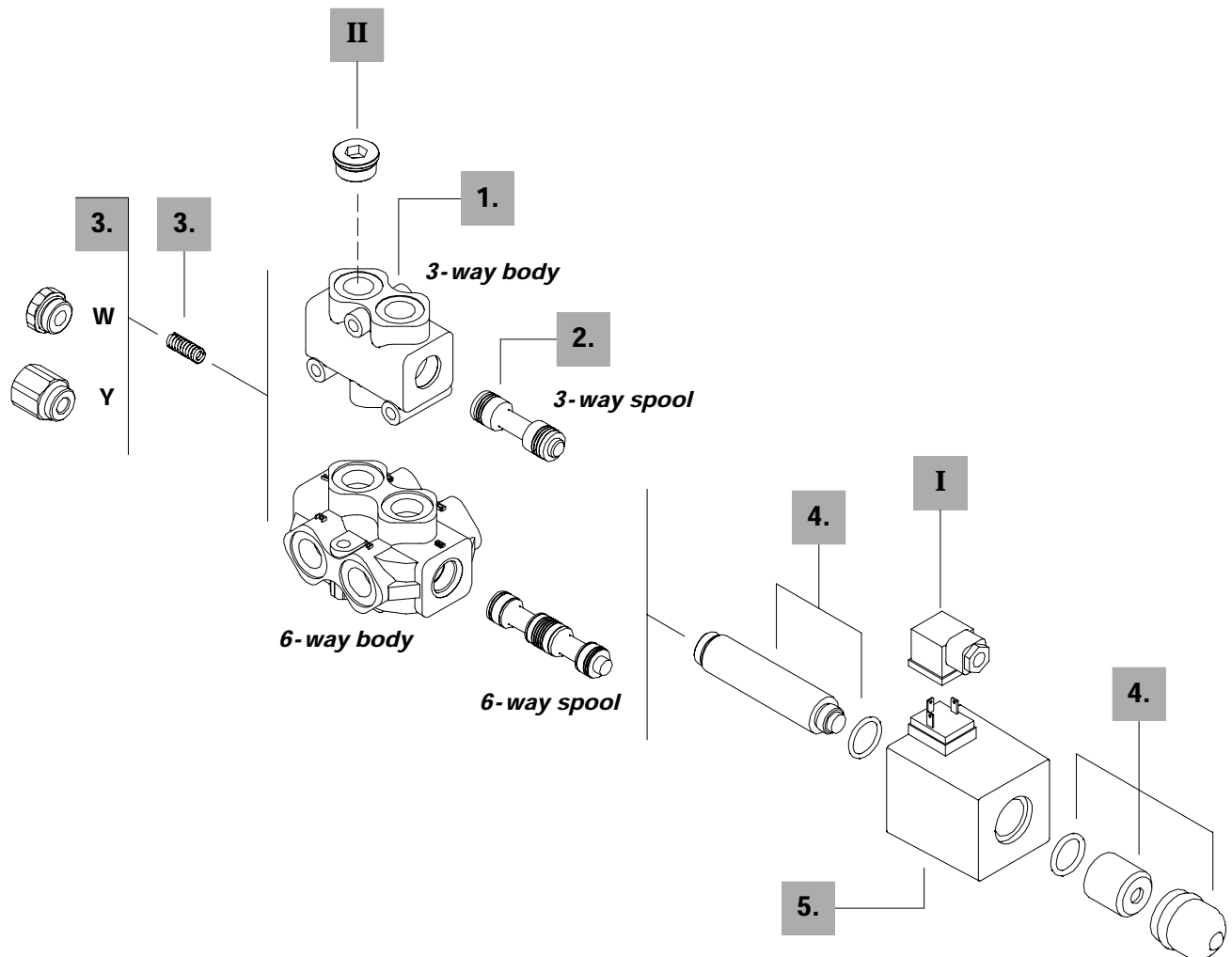
Ordering codes

Description example :

Diverter valve **DFE10/3** **A** **18** **ES** - **W** **202-12VDC** - **<CVN>**

- 1.
- 2.
- 3.
- 4.
- 3.
- 5.

Valve is supplied painted as standard, with one coat of Primer black antirust paint



with solenoid control

DFE10

Ordering codes

3-way

1. Body *

TYPE	CODE	DESCRIPTION
DFE10/3	3CO2241320	Standard body, BSP threaded

2. Spool options

TYPE	CODE	DESCRIPTION
A	3CAS110341	3-way, 2 positions with ports connected in transit position
B	3CAS110441	3-way, 2 positions with ports closed in transit position
D	3CAS110540	3-way, 2 positions, without transit position, with ports closed in rest position

6-way

1. Body *

TYPE	CODE	DESCRIPTION
DFE10/6	3CO2242322	Standard body, BSP threaded

2. Spool options

TYPE	CODE	DESCRIPTION
A	3CAS110641	6-way, 2 positions with ports connected in transit position
B	3CAS110741	6-way, 2 positions with ports closed in transit position
H	3CAS110840	6-way, 2 positions, D↔C in position 1, F↔E in position 2, ports closed in transit position
N	3CAS110952	6-way, 2 positions with ports closed in transit position, with check valve

3. Positioner kits page 64

TYPE	CODE	DESCRIPTION
18...W	5TAP002	Spring return in position 1
18...Y	5GIU004 *	Spring return in position 1, with G1/4 drain port

4. Tube assembly page 64

TYPE	CODE	DESCRIPTION
ES	5SOL516000	Spring return in position 1 (without coil)

5. Coil options page 64

TYPE	CODE	DESCRIPTION
102	-	Without coil (only with tube kit)
<u>VDC supply (connector C02)</u>		
202-12VDC	4SOL516012	Coil with 12VDC nominal voltage
202-24VDC	4SOL516024	Coil with 24VDC nominal voltage
202-48VDC	4SOL516048	Coil with 48VDC nominal voltage
<u>VAC supply (connector C04)</u>		
202-92VDC	4SOL516094	Coil with 92VDC nominal voltage (for 110VAC)
202-192VDC	4SOL516192	Coil with 192VDC nominal voltage (for 220VAC)

I Optional connectors page 80

TYPE	CODE	DESCRIPTION
C02	2X1001010	According ISO4400
C04	2X1001040	According to ISO4400 with rectifier

II Ports plug

TYPE	CODE	DESCRIPTION
G1/2	3XTAP727180*	Body conversion from 3-way to 2-way circuit

NOTE (*) - Codes are referred to **BSP** thread.

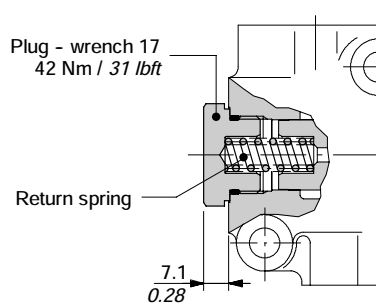
DFE 10

with solenoid control

Positioner kits

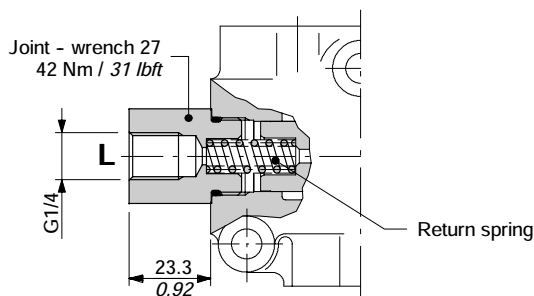
18W kit

Spring return in position 1 with plug.



18Y kit

Spring return in position 1, with G1/4 joint for drain.

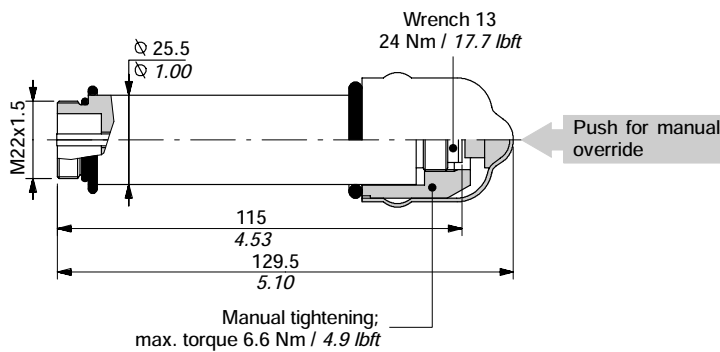


with solenoid control

DFE10

Solenoid parts

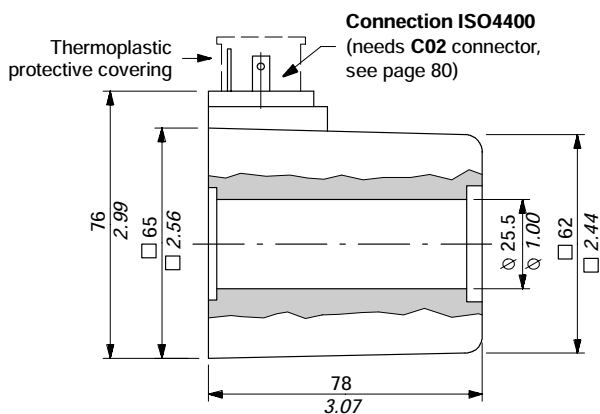
ES tube assembly



Operating features

Plunger stroke : 10.2 mm / 0.40 in

Coil options



Operating features

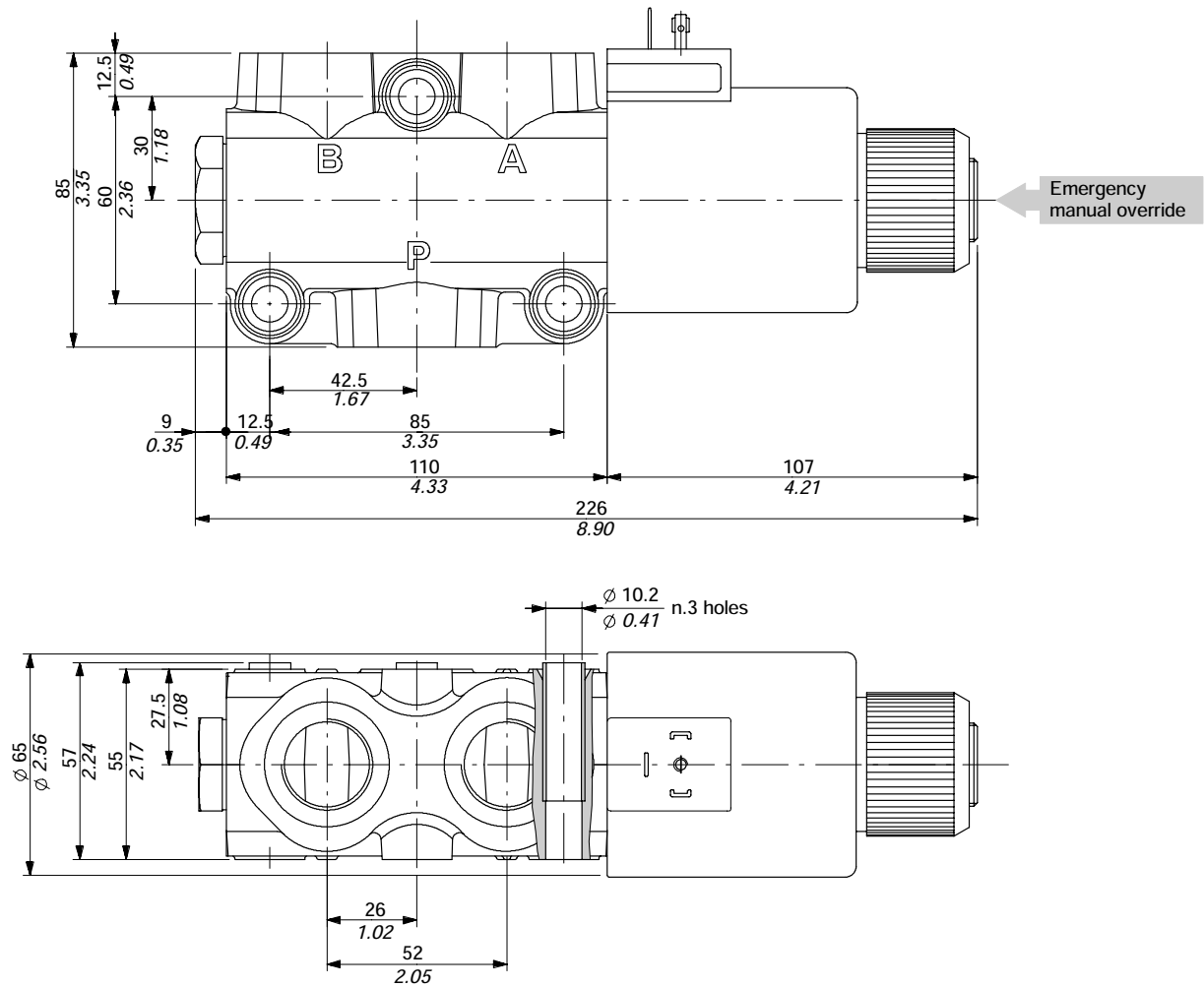
Nominal voltage : 12-24-48-92-192VDC
 Nominal voltage tolerance . . . : $\pm 10\%$
 Power rating : 60 W
 Duty cycle : 100%
 Weather protection : IP66
 Coil insulation : Class H

DFE20

with solenoid control

Dimensional data

3-way DFE20/3 valve

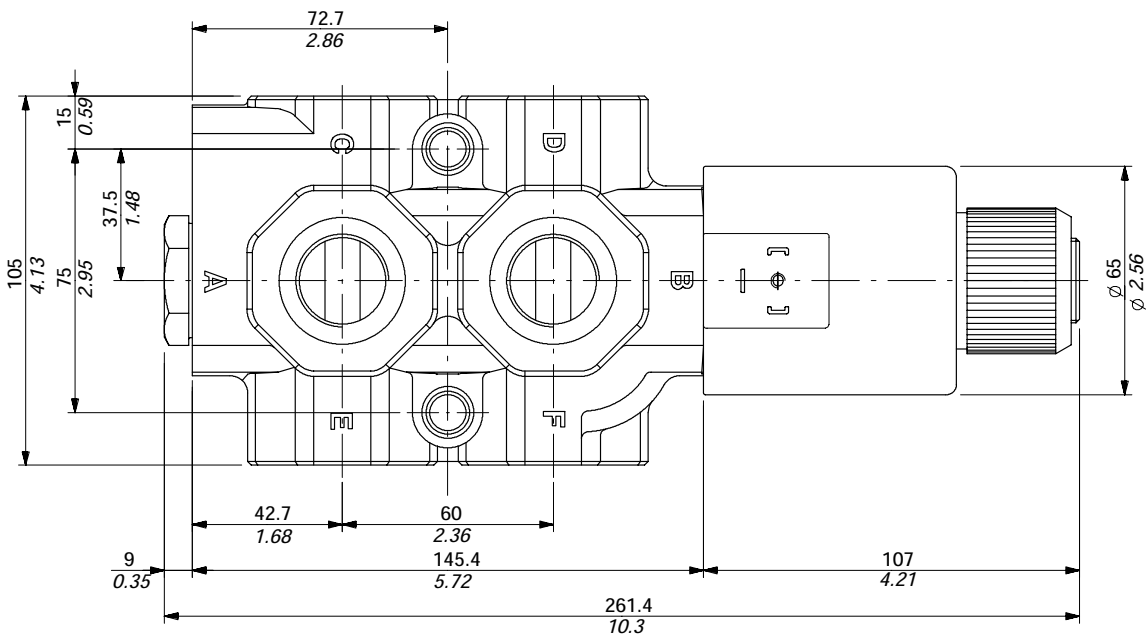
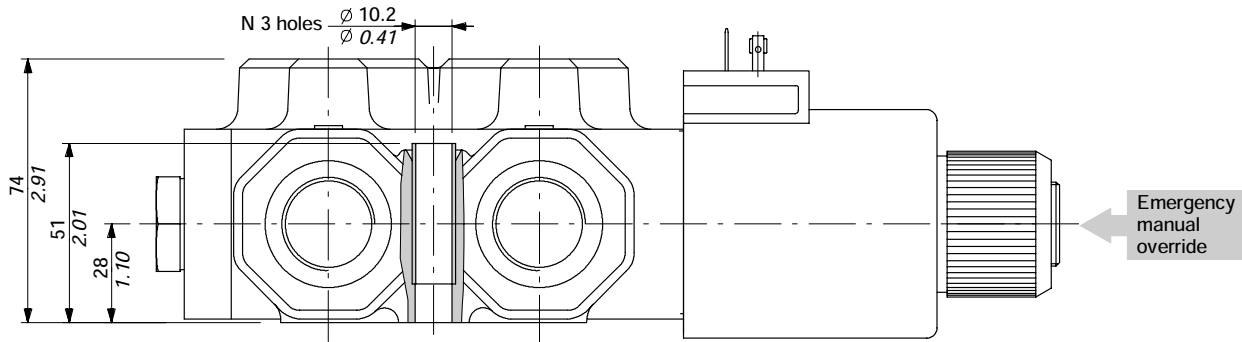


with solenoid control

DFE20

Dimensional data

6-way DFE20/6 valve



DFE20

with solenoid control

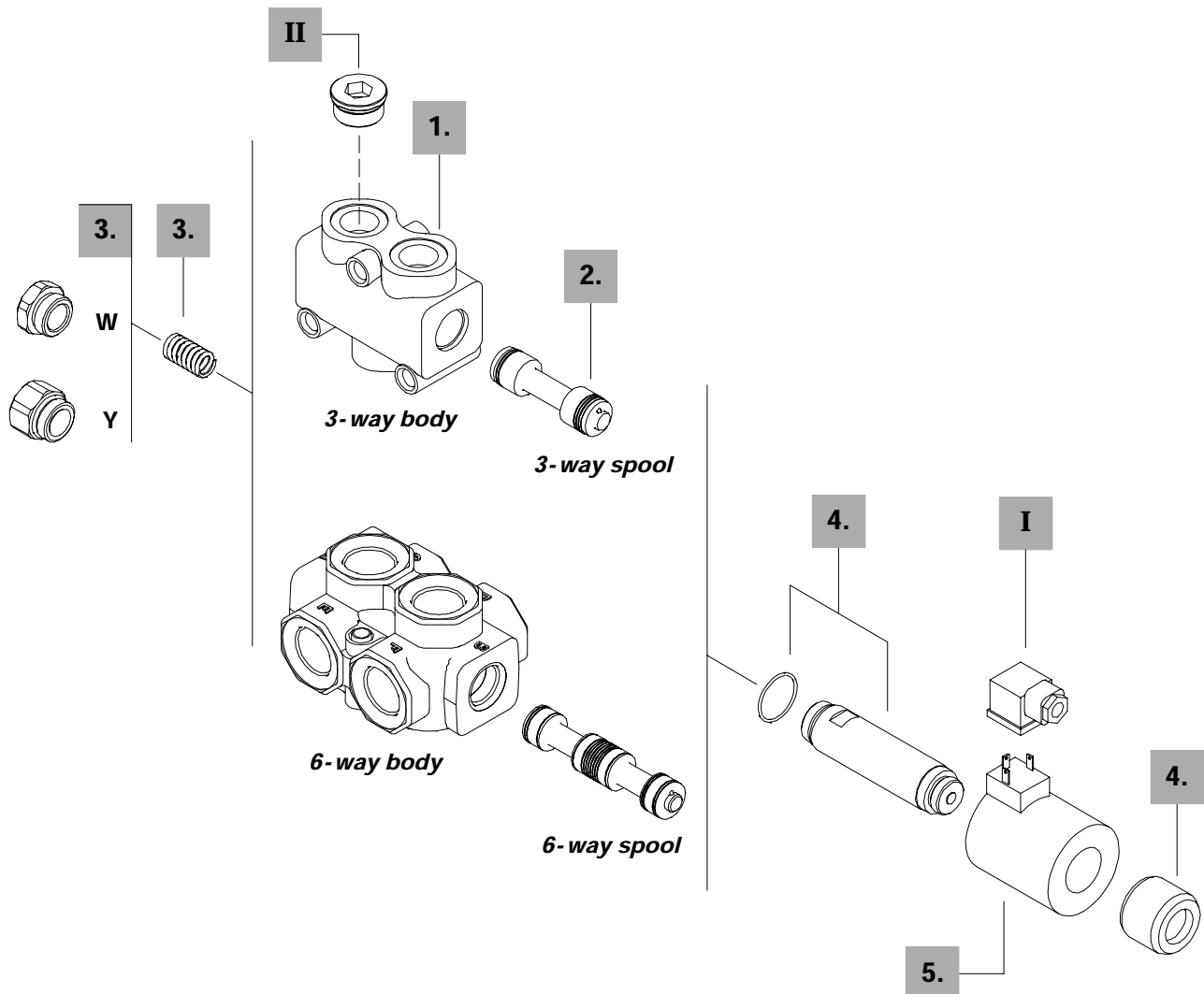
Ordering codes

Description example :

Diverter valve **DFE20/3** **A** **18** **ES** - **W** **201-12VDC** - **<CVN>**



Valve is supplied painted as standard, with one coat of Primer black antirust paint



with solenoid control

DFE20

Ordering codes

3-way

1. Body *

TYPE	CODE	DESCRIPTION
DFE20/3	3CO2261320	Standard body, BSP threaded

2. Spool options

TYPE	CODE	DESCRIPTION
A	3CAS120341	3-way, 2 positions with ports connected in transit position
B	3CAS120441	3-way, 2 positions with ports closed in transit position

6-way

1. Body *

TYPE	CODE	DESCRIPTION
DFE20/6	3CO2263820	Standard body, BSP threaded

2. Spool options

TYPE	CODE	DESCRIPTION
A	3CAS120641	6-way, 2 positions with ports connected in transit position
B	3CAS120741	6-way, 2 positions with ports closed in transit position
H	3CAS120841	6-way, 2 positions, D↔C in position 1, F↔E in position 2, ports closed in transit position

3. Positioner kits *page 70*

TYPE	CODE	DESCRIPTION
18...W	5TAP003	Spring return in position 1
18...Y	5GIU007 *	Spring return in position 1, with G1/4 drain port

4. Tube assembly *page 70*

TYPE	CODE	DESCRIPTION
ES	5SOL519001	Spring return in position 1 (without coil)

5. Coil options *page 70*

TYPE	CODE	DESCRIPTION
101		Without coil (only with tube kit)
<u>VDC supply (connector C02)</u>		
201-12VDC	4SOL519112	Coil with 12VDC nominal voltage
201-24VDC	4SOL519124	Coil with 24VDC nominal voltage
<u>VAC supply (connector C04)</u>		
201-20VDC	4SOL519020	Coil with 20VDC nominal voltage (for 24VAC)
201-94VDC	4SOL519094	Coil with 94VDC nominal voltage (for 110VAC)
201-192VDC	4SOL519192	Coil with 192VDC nominal voltage (for 220VAC)

I Optional connectors *page 80*

TYPE	CODE	DESCRIPTION
C02	2X1001010	According ISO4400
C04	2X1001040	According to ISO4400 with rectifier

II Ports plug

TYPE	CODE	DESCRIPTION
G3/4	3XTAP732200*	Body conversion from 3-way to 2-way circuit

NOTE (*) - Codes are referred to **BSP** thread.

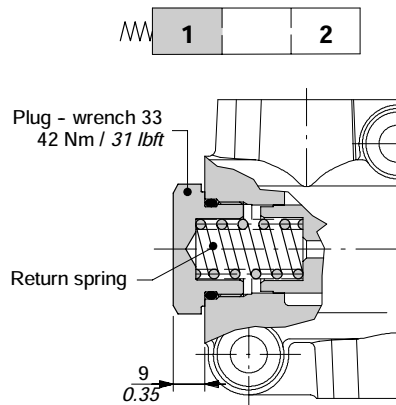
DFE20

with solenoid control

Positioner kits

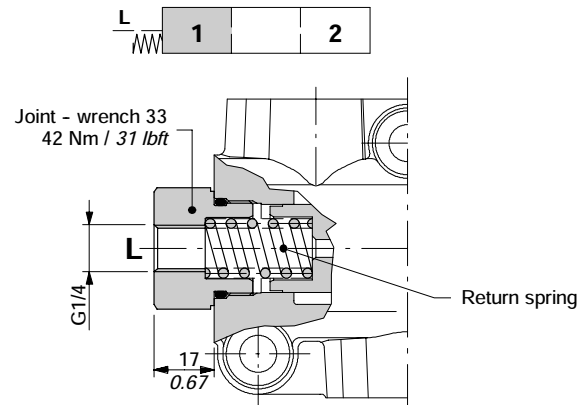
18W kit

Spring return in position 1 with plug.



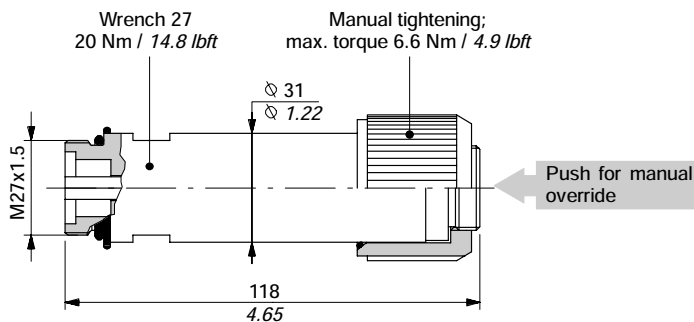
18Y kit

Spring return in position 1, with G1/4 joint for drain.



Solenoid parts

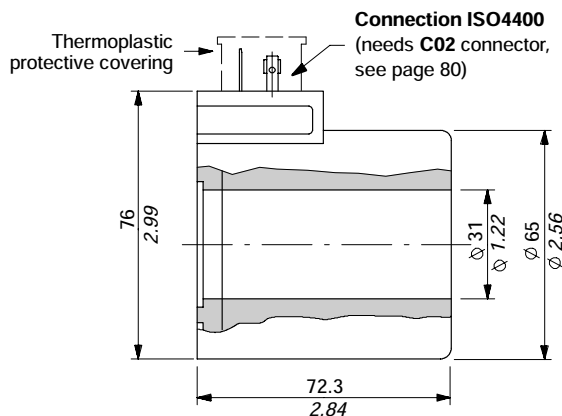
ES tube assembly



Operating features

Plunger stroke : 10.2 mm / 0.40 in

Coil options



Operating features

Nominal voltage : 12-20-24-94-192VDC
Nominal voltage tolerance ... : ±10%
Power rating : 60 W
Duty cycle : 100%
Weather protection : IP66
Coil insulation : Class H

Produktbereiche:

- Zylinder
- Motoren
- Pumpen
- Cetop Ventile
- Wegeventile
- Regelventile
- Aggregate
- Meß- und Elektrotechnik
- Getriebe
- Installationsmaterial



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